

4-18-12

## INDEPENDENT EVENTS vs. DEPENDENT EVENTS

Independent Events - the sample space and P do not change, no matter what the outcome is

Ex: Spinner  
# Cube  
Coin

Dependent Events - the sample space and P do change, depending on the outcomes and not replacing them

Ex: A basket of color cubes  
A box of crayons  
A hat of names

Ex: Basket has: 6 yellow, 2 black, 3 blue,  
4 white, 4 green, 3 red, 3 purple  
(25 total)

Pick a color and do not replace

$$\text{Ex: } P(\text{red, then blue}) = \frac{3}{25} \times \frac{3}{24} = \frac{3}{200}$$

$\frac{P(\text{red})}{P(\text{blue})}$

$$\text{Ex: } P(\text{yellow, yellow, white}) = \frac{6}{25} \times \frac{5}{24} \times \frac{4}{23} = \frac{1}{115}$$

$\frac{P(y)}{P(y)} \quad \frac{P(w)}$